## ABSTRACT

So as to compare an amplitude of a differential input signal to a threshold, a signal detection circuit includes first and second matched input signal level-shifters, a comparator threshold generation circuit, and a two-stage comparator. The differential input signal is comprised of a true input signal and a complement input signal, and the first input signal level-shifter is coupled to the true input signal, and the second input level-shifter is coupled to the complement input signal. The comparator threshold generation circuit is matched to the input signal level-shifters and outputs first and second compare voltages. The first stage of the two-stage comparator outputs a low signal if the more positive of the level-shifted input signals is greater than the more positive of the compare voltages. The second stage of the two-stage comparator amplifies the output of the first stage of the two-stage comparator, includes positive feedback to inhibit comparator self-oscillation, and has a sufficiently low bandwidth so as not to pass to its output a momentary pulse at its input during a transition in the differential input signal.